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2020

See the Future Conference

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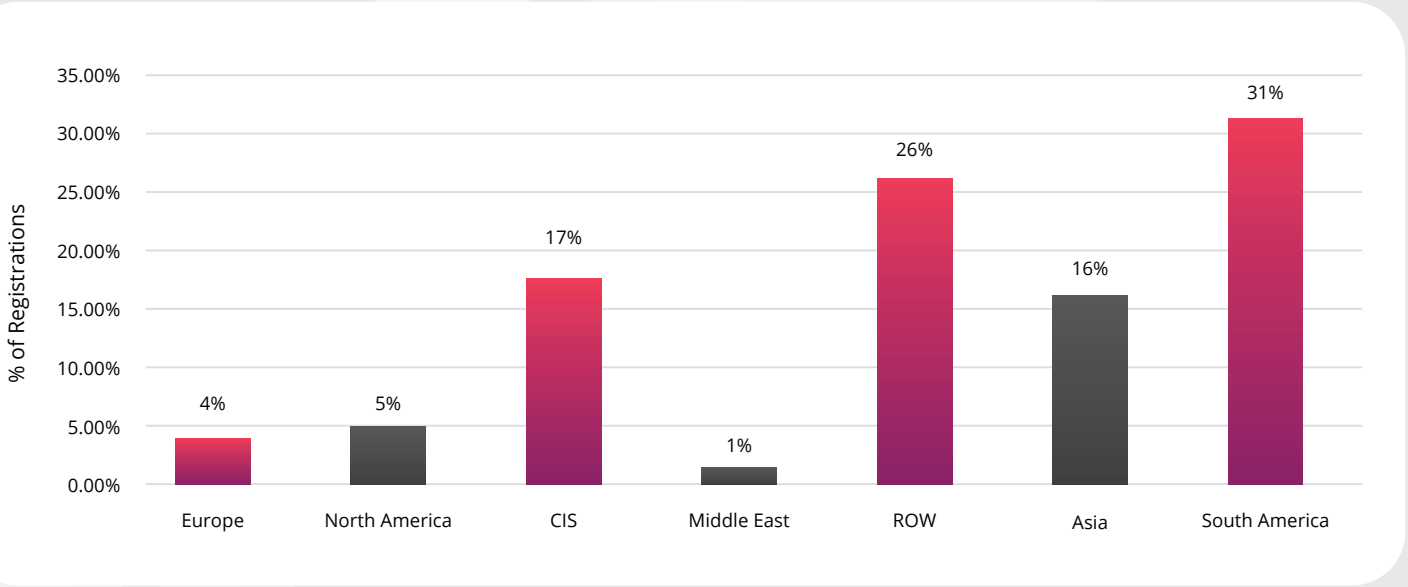
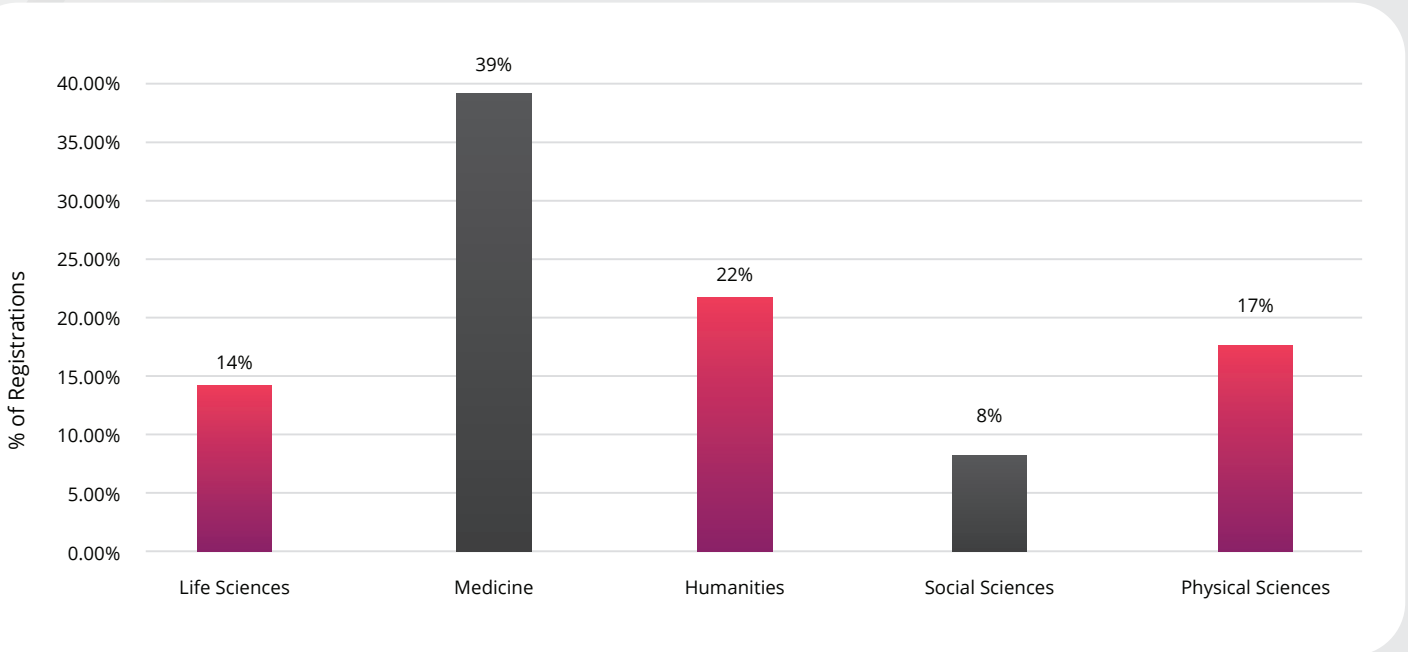
Enago's See the Future virtual conference, the first of its kind, was held in November 2020 for researchers, university administrators, and publishing professionals across the globe. The conference was delivered in eight languages - English, Spanish, Portuguese, Chinese, Japanese, Korean, Russian, and Arabic.

The speakers provided fascinating and unique insights into the future of research and how the COVID-19 pandemic is changing the way we work. The conference began with an inspirational talk by **Sir Richard Roberts** on his journey to winning a Nobel Prize. The panel of speakers included industry leaders in the publishing and academic fields, each imparting valuable knowledge on the way forward for research and research communication. Elsevier, Karger Publishers, Hindawi, ACS Publications, Wiley, Nature, and the Royal Society of Chemistry were represented from the publishing industry. Other speakers represented Quacquarelli Symonds (QS), Harvard University, and NCURA.

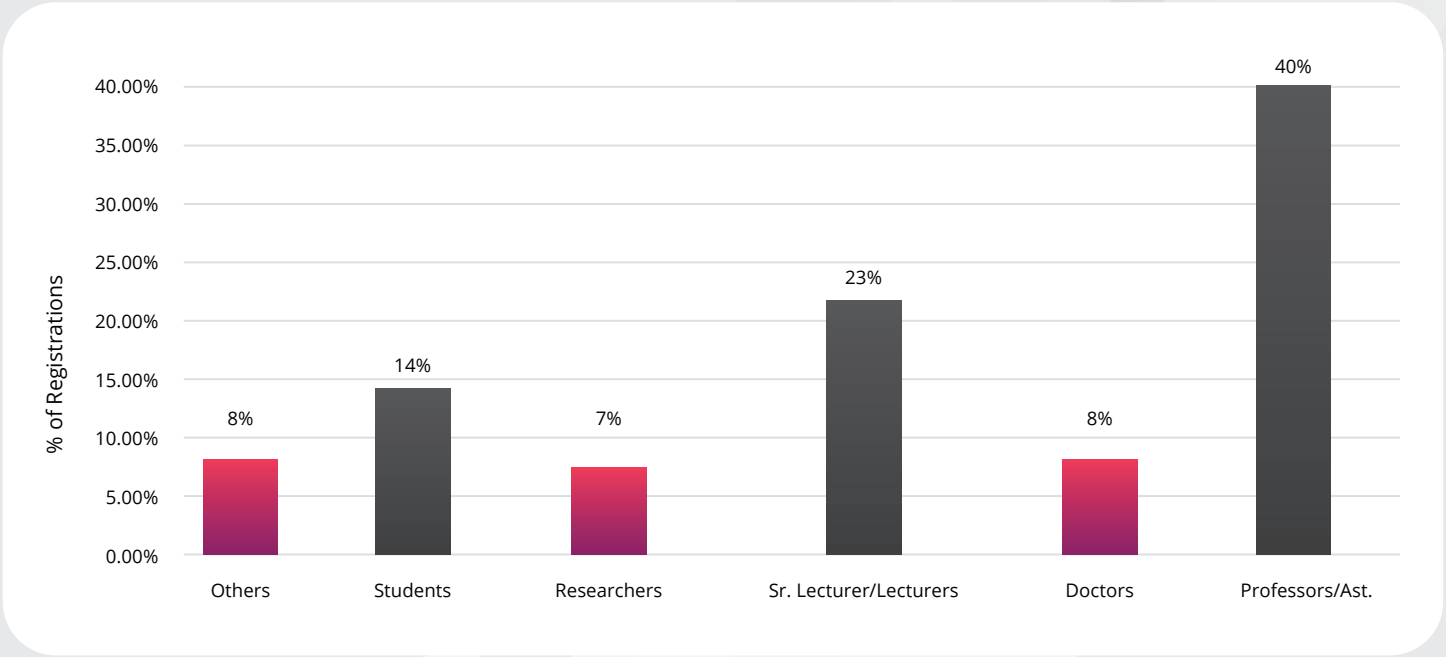
The conference was well attended with more than 19,000 registrations from all regions.



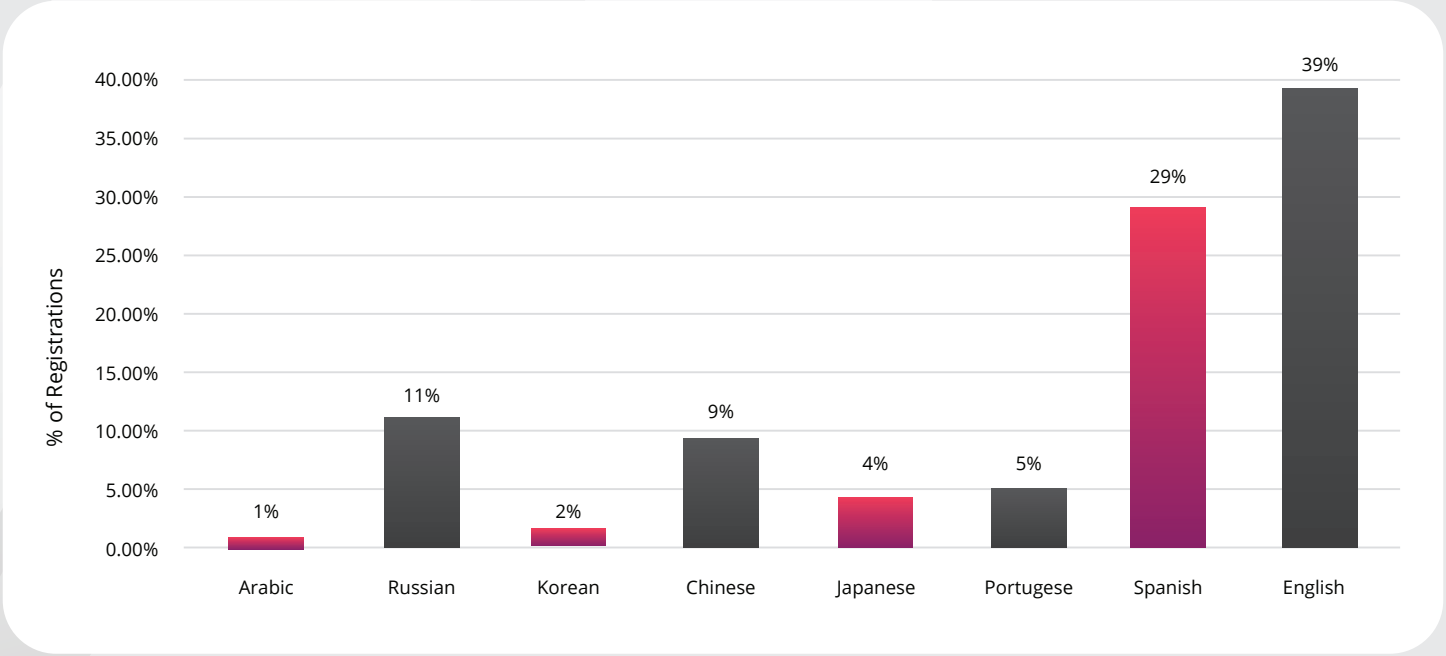
The registrants were from a wide variety of disciplines covering the full spectrum of academic study.



Moreover, every academic level was represented ranging from graduate students to professors and doctors.



An overwhelming 42% of registrants viewed the live event that was broadcasted in eight languages across four days. Interestingly, most attendees from Japan, Korea, Brazil, and the Middle East preferred the sessions in English, whereas those from China, LATAM, and Russia/CIS preferred local languages.



Event MODERATORS

The primary moderators for the sessions were Tony O'Rourke and Darrell Gunter.

Tony O'Rourke
Vice-President,
Partnerships at Enago

Tony O'Rourke's 30 years of experience in the scientific, technical, and medical (STM) publishing/scholarly communication sector makes him invaluable as Vice President at Enago, where he is responsible for partnerships with publishers, professional societies, and higher education organizations.

Darrell Gunter
SVP, Strategic Partnerships
at Underline Science Inc.

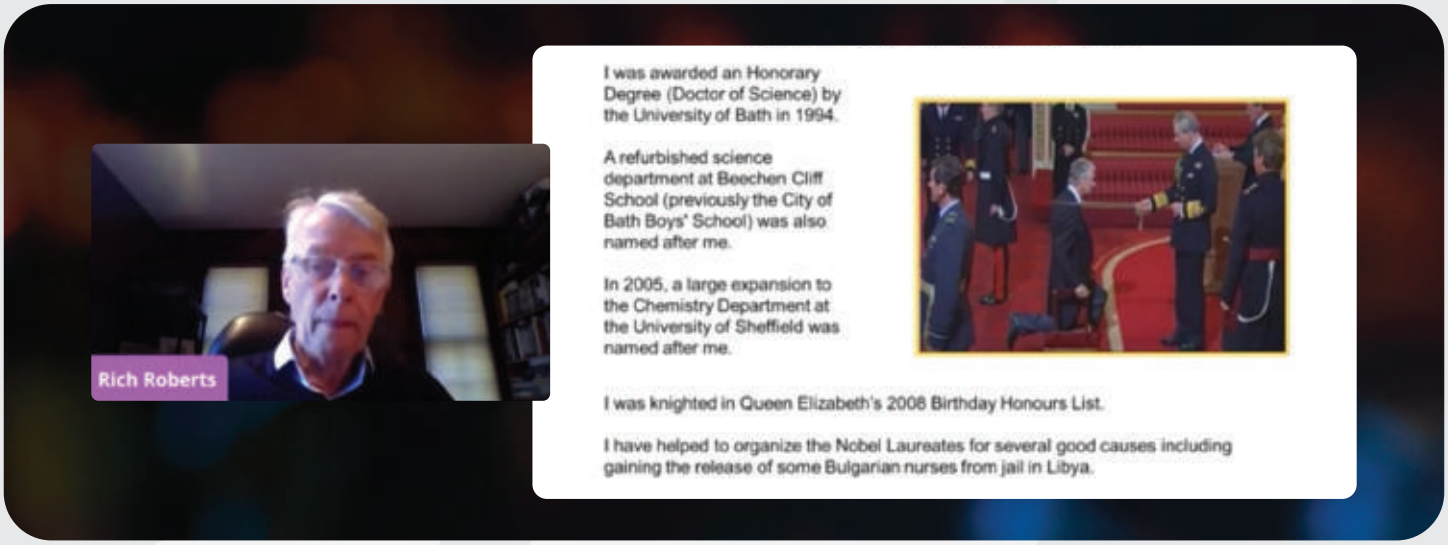
Darrell Gunter is an experienced digital publishing executive. His background in leadership, consultative sales, mobile, semantic, and Blockchain technology makes him a valuable advisor to many CEOs from start-ups to the very largest publishers.

This report comprises the schedule and English session details in brief. A follow up report will contain details for the sessions conducted in other languages such as Japanese, Chinese, and Russian.

DAY 1

SESSION 1:

KEYNOTE SPEECH ON "THE PATH TO A NOBEL PRIZE"



The conference was opened by keynote speaker, **Sir Richard Roberts**, Nobel Laureate, who gave a fascinating overview of his path to winning a Nobel Prize in Medicine in 1993. His research was fuelled by passion, a desire to understand things, working with others, and in his own words: "a bit of luck." He said:

> ***"When something lucky happens, you should not feel guilty about it, you have to concentrate twice as hard on the next shot to make sure you don't lose the advantage that the luck gave you."***

He affirms that this is the most important advice he received. He shared several such "lucky moments" in his life, one of which was taking a plane one day earlier than he was meant to, which flew into the World Trade Tower the following day.

Another trait Sir Richard Roberts values greatly is humor, and he says one should keep this in mind, especially during difficult times such as our current pandemic.

True to his style, Sir Richard Roberts helped organize the Nobel Laureates for good causes including help to gain the release of some Bulgarian nurses from jail in Libya, who were accused of spreading HIV in the children's hospital. Furthermore, he has done a lot to support GMO technology, especially for the developing world where crops with additional nutritional value are desperately needed.

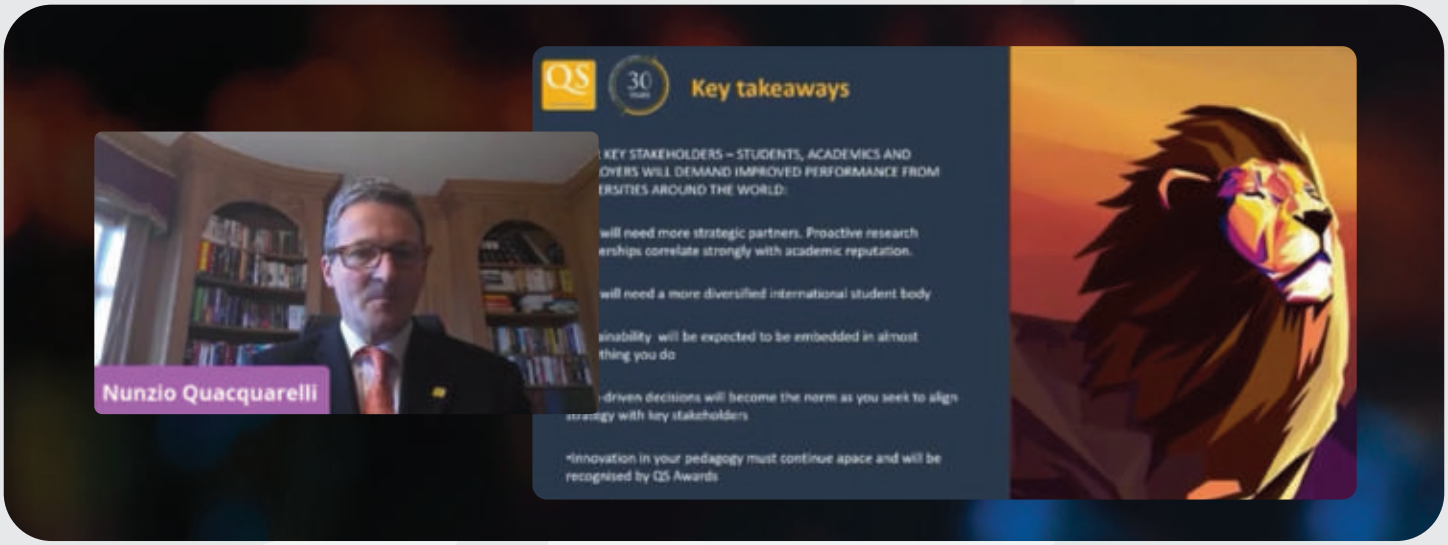
When it comes to publishing, he said journal editors are only too happy to help. If you need help, ask for it.

Sir Richard Roberts believes in doing good. He feels that it is very important for companies to support research with some of their profits. An example is the company New England Biolabs – for which Sir Richard Roberts is chairman of the Scientific Advisory Board – who use their profits to fund research.

As Tony O'Rourke said, Sir Richard Roberts is an inspiration and has set the bar high for anyone involved in research.

SESSION 2:

WHAT DOES HIGHER EDUCATION LOOK LIKE IN 2022?



Nunzio Quacquarelli, CEO of Quacquarelli Symonds (QS) spoke about the future of higher education. QS has a vision to empower a billion future learners to fulfill their potential and they aim to achieve this by becoming their lifetime decision partner. QS works with students, university leaders, planners, admission and enrolment managers and is widely regarded as the most popular ranking system for universities.

QS has found that student attitudes have changed since the COVID-19 pandemic and universities need to adapt to the needs of their key stakeholders.

TAKEAWAYS:

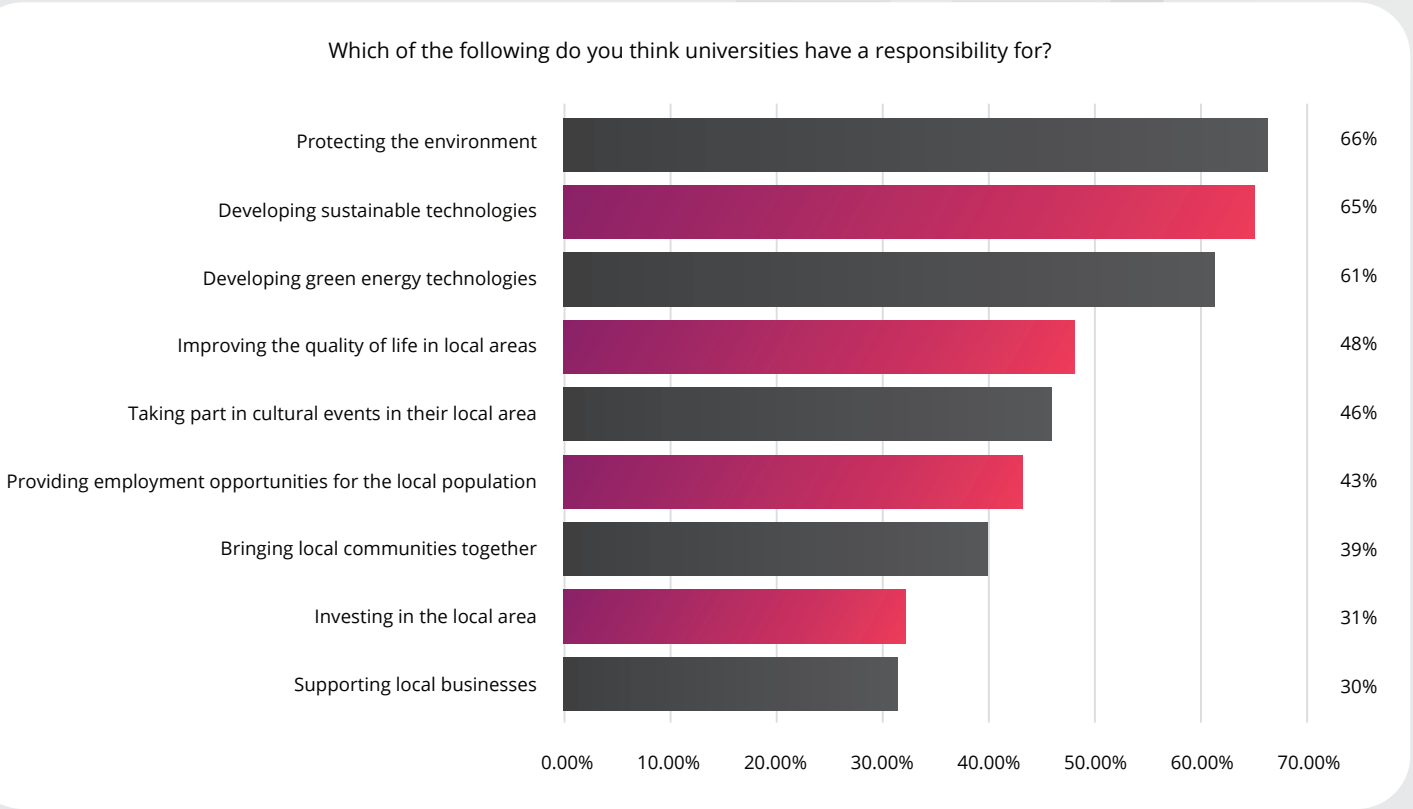
Researchers:

There will be greater competition in higher education in the future and students need to be the best that they can be. International student populations will be over 20%.

Institutions:

Online teaching is expected to become more common with less need for traditional lecture halls. Artificial intelligence will enable face recognition of student engagement during an online lecture and “hologram” lecturers will be able to engage directly with students. This will translate into less need for travel and decrease the carbon footprint.

Students would rather attend a university with a high employment score compared to one with a high student satisfaction score. Employers have reported a significant skills gap and institutions need to find a way to develop skills such as problem solving, resilience, communication, creativity, and data skills. Skills that should be paid particular attention are ones that AI cannot displace. Students are also concerned about factors outside their educational experience such as the global environment and feel that universities should have a wider responsibility in sustainable technologies and goals.



- **Publishers:**

  Research quality is going to be the major focus. QS predicts that in 2022 the minimum research productivity per faculty will be 8 citations per paper and 7 papers over 5 years.

In conclusion, the rapid change brought about by the COVID-19 pandemic requires equally rapid changes from universities. They will need proactive research partners, a more diversified international student body, sustainability goals for everything they do, data-driven decisions to align to key stakeholders, and innovative teaching methods.

SESSION 3:

THE FUTURE OF SCHOLARLY PUBLISHING

How can research boost economy and influence policy making

Phillippe Terheggen, Managing Director for Journals at Elsevier spoke about the future of scholarly publishing. Here are some of the main points he discussed.

- The COVID-19 pandemic required the rapid communication of research in the race against the virus. The use of research paper preprints has increased. However, it was made very clear that the information should not be used to make clinical decisions until the review process had been completed. Everyone involved had undertaken this responsibility.

- All COVID-19-related papers were made open access so that data sharing can be accelerated. This has highlighted the importance of sharing data to achieve rapid research outcomes in a short time period. It is rare for vaccines to be developed in less than 5 years; however, the pandemic has necessitated research speed. Machine learning and open data can facilitate this.

- Research funding has been impacted. There was a rapid decline in enrolments of international students during 2020. Furthermore, there is need for a closer interaction between science and policy makers. Our world needs solutions driven by science in many areas including the ethical complexities around social media, climate challenges, and healthcare for aging populations.

- There is a lot of mistrust in science and the authorities. There are also many conspiracy theories, something that is often amplified by social media. However, social media can also close the gap between science and the general public.

- The pandemic may be a catalyst for conducting science and conferences with less carbon emissions. Virtual conferences not only enable a higher number of attendees, but they also address many researchers' concerns of the impact on the environment as a result of a physical conference. Virtual conferences will save time and money for researchers, have less environmental impact, and enable the inclusion of a wider number and diversity of attendees. Elsevier has undertaken many changes to minimize their impact on the environment by limiting travel.

- Research has shown that the pandemic affected women researchers more than men, with men submitting more research papers than women do during the lockdown. This needs to be addressed as we have a responsibility to promote equalness and diversity.

- Research is becoming more open, more inclusive, more transparent, and closer to society. Elsevier wishes to continue to help this process.

TAKEAWAYS:

- **Researchers:**

  Virtual conferences will become more prevalent, saving money, time, and importantly reducing the impact on the environment. Whether these will be as impactful as attending in person is yet to be seen.

- **Institutions:**

  Research needs to be accelerated and to do so requires collaboration, open data, and machine learning technologies. There is a need for increased funding.

- **Publishers:**

  The COVID-19 pandemic resulted in an increased volume of journal article submissions and required urgent verification and publication of research. Elsevier developed a machine-learning algorithm to prioritize incoming articles. Trustworthy information and good communication is required to combat myths and conspiracies. Open science requires technologies that can scan for relevant literature and assist in navigating and reading of the huge amount of information.

The COVID-19 pandemic has necessitated an urgency to verify and publish information and has also highlighted gender inequalities that need to be addressed.

SESSION 4:

FUTURE OF PUBLISHING TECHNOLOGY

Focus on 3 A's – automation, artificial technology, access

This session was co-chaired by Daniel Ebneter (Karger) and Mathias Astell (Hindawi).

Daniel Ebneter, CEO of Karger Publishers shared why researchers should care about artificial intelligence (AI). Here are some of the main points he covered.

- AI can be used to search, analyze, and disseminate huge sets of data. This makes it useful in all stages of research from project conception, through to data analysis and publication. In publishing, AI optimizes the workflow at all stages including submission, peer review, scientific integrity checking, production, and publishing.

- AI has a place in healthcare, in education of doctors and patients in diseases, and to help patients find specialized experts that can assist with their condition. Educational applications of AI include metadata generation, training, individualized learning processes, gamification, and competitiveness to benefit the learner. AI can also utilize the input of users to improve itself.

- AI can be used to educate doctors and patients as well as support them in the clinical setting through clinical decision support, patient information, and interaction. AI-based nurse tools already exist to assist patients with their everyday obligations and limits imposed on them by their disease.

- Future educational applications should consider what doctors will need to know in the future. Possible future scenarios of AI could play a role in doctors making remote diagnoses from photographs, or using AI as a second opinion to support their diagnosis.

TAKEAWAYS:

Researchers:

AI is an established method in many research disciplines and used to optimize searches, discover, and visualize information as well as connections between sets of information. AI is optimizing article citations by analyzing whether they support or refute the research they cite. AI article summarizing tools are making it easier to understand research. Furthermore, AI tools are also helping researchers check their own content.

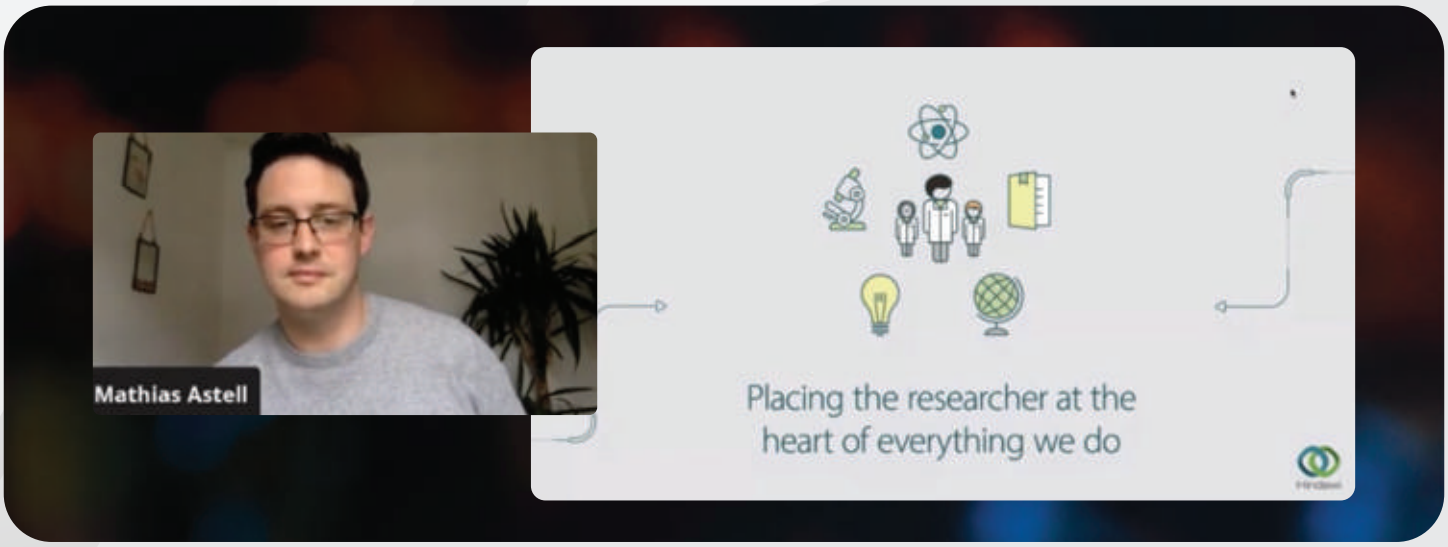
Institutions:

Pharmaceutical companies are looking at healthcare AI startups to assist in drug discovery and clinical trials. Efficient clinical trials are crucial, and AI is useful to manage trials dealing with large cohorts.

Publishers:

Currently, AI has the biggest impact on publishing by disseminating research to ensure it gets seen by the right people.

Science can benefit from AI. It is already making the life of researchers, authors, editors, and reviewers easier. It is not known whether AI will completely replace humans in the research and discovery process, but this is unlikely. It is thought that AI will assist and impact academia when it comes to very big data sets or running clinical trials with extremely large cohorts. However, this depends on how the scientific community shapes the way things will work in the future.



Mathias Astell, Chief Marketing and Journal Development Officer at Hindawi shared how Hindawi is using AI tools for the benefit of researchers. The researcher is at the heart of everything Hindawi does and they are constantly looking for tools and resources, including AI-based tools that provide the most use and value for researchers, whether they are playing the role of an author, reviewer, editor, or reader. Their focus is to become more equitable and transparent.

TAKEAWAYS:

Researchers:

Hindawi aims to remove all article submission obstacles for authors. They provide up-to-date journal metrics in an easy-to-understand format to make journal selection easier. No formatting or styling is required when submitting an article. Once the article has been accepted for publication, all styling and formatting requirements are performed by Hindawi on behalf of the author. Styling is automated to some extent and AI is continually being improved to support this process.

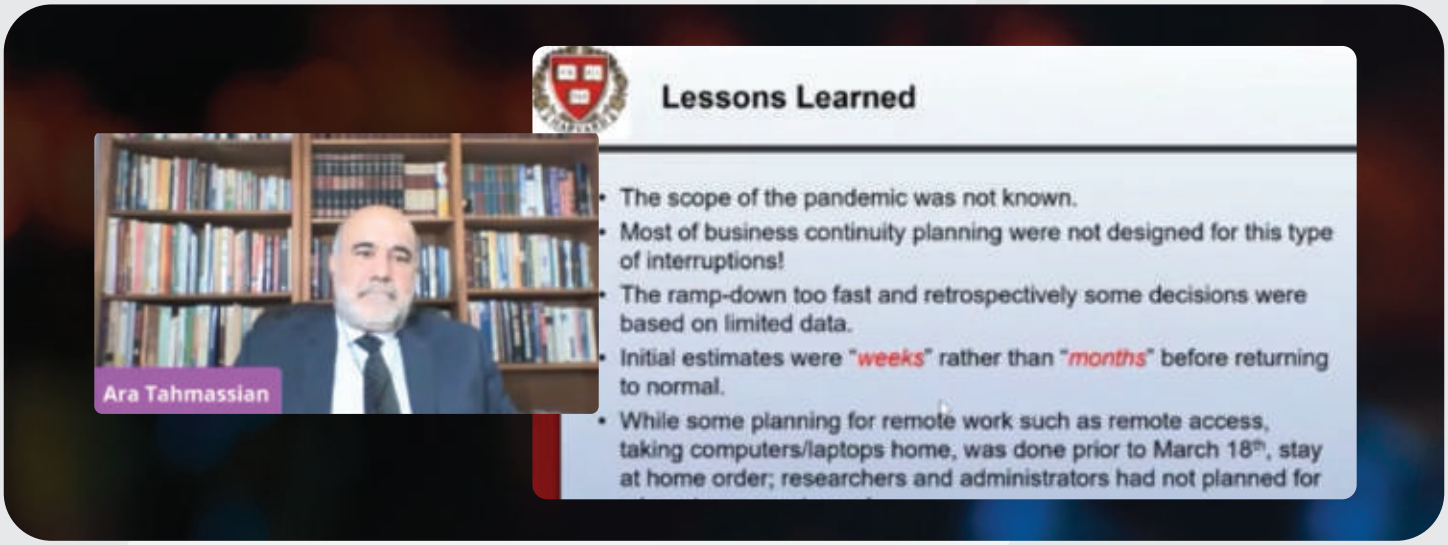
Language barriers have been removed by offering a tool to authors that checks punctuation, vocabulary, style, and grammar, creating greater equity in the submission process and accelerating the review process. Astell claimed that more 15,000 researchers engaged with these tools during the first six months of it being available.

Looking ahead, Hindawi is preparing content for next generation workflows and introducing more community-driven initiatives. This includes cross-industry initiatives, connecting various parties and systems to streamline funding and publication details, and creating greater transparency for all.

DAY 2

SESSION 1:

UNIVERSITY RESEARCH OFFICES CAN SECURE THE FUTURE OF RESEARCH COMPLIANCE, GRANTS, AND FUNDING. FIND OUT HOW.



This session was co-chaired by Dr Ara Tahmassian (Harvard) and Claire Chen (National Council of University Research Administrators).

Dr Ara Tahmassian, Chief Research Compliance Officer at Harvard University, shared his experience of managing operations during the pandemic. Although Harvard University had emergency plans in place, these plans were for instances of a short-term nature such as weather events or power interruptions. Harvard was forced to adapt quickly, and at a short notice, to keep its research programs going. In just eight days, all staff started working remotely and students were moved onto an online program. A committee was assembled to develop protocols for reopening.

TAKEAWAYS:

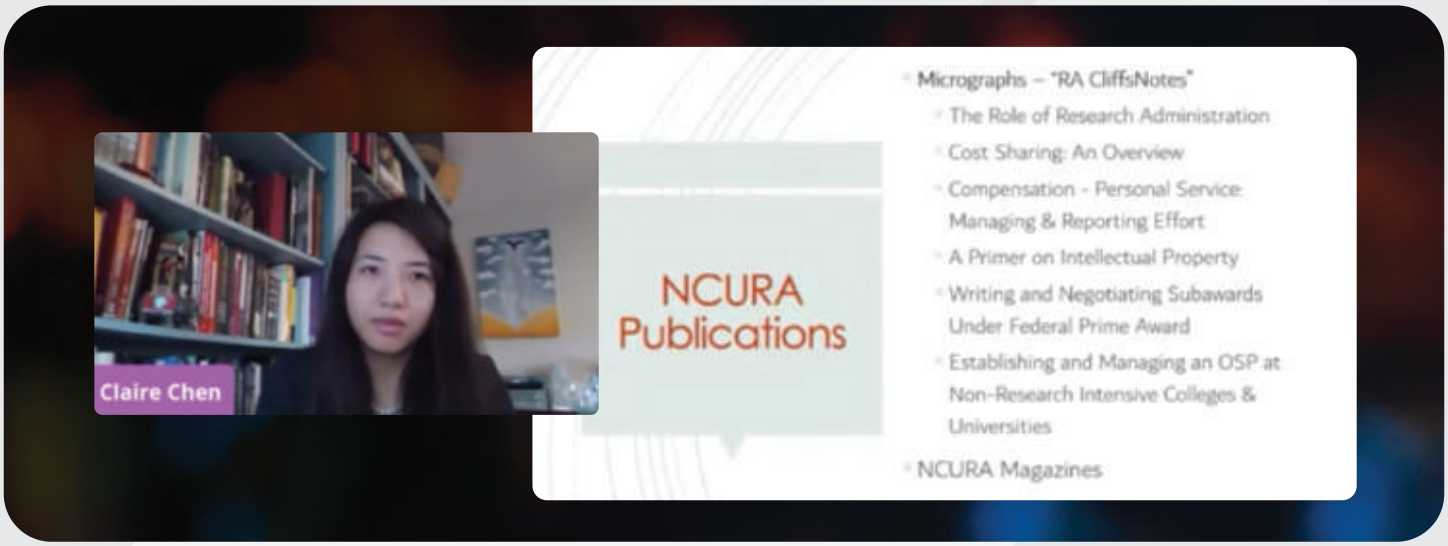
Researchers:

Group leaders had to come up with a strategy to continue their research. Only COVID-19 related research or research that would suffer a huge financial loss if interrupted was permitted to continue. Researchers were asked to continue working remotely if possible. Laboratory work continued in shifts to accommodate the permitted occupancy rate, initially of 25% and later 50% of normal capacity.

Institutions:

Most businesses continued; however, the pandemic highlighted the need to revise emergency plans. It highlighted that everyone must be included in emergency plans to prevent missing any critical components that support research. Communication is key as circumstances change and plans need to be flexible and dynamic to adjust to the changes.

The pandemic has changed how business will be conducted in the future. The use of technology will be accelerated for data capture, management, sharing, and there will be increased use of social media. There will be less in-person contact and spontaneous conversations at coffee or lunch breaks. The research landscape is expected to be more collaborative between individuals as well as institutions, locally and globally. This will require dynamic research teams that can understand any language and terms.



Claire Chen, Director for Global Initiatives at the National Council of University Research Administrators (NCURA), spoke about NCURA's role in research compliance, grants, and funding. NCURA is dedicated to building and maintaining a diverse cultural membership of research managers and administrators to assist with funding rules and regulations so that projects can be managed in an accountable and sustainable manner. Research administrators and managers need to be:

- Orientated towards collegiality
- Problem solvers
- Organized
- Able to withstand pressure

TAKEAWAYS:

Researchers:

The NCURA community pledged to help researchers win and manage grants.

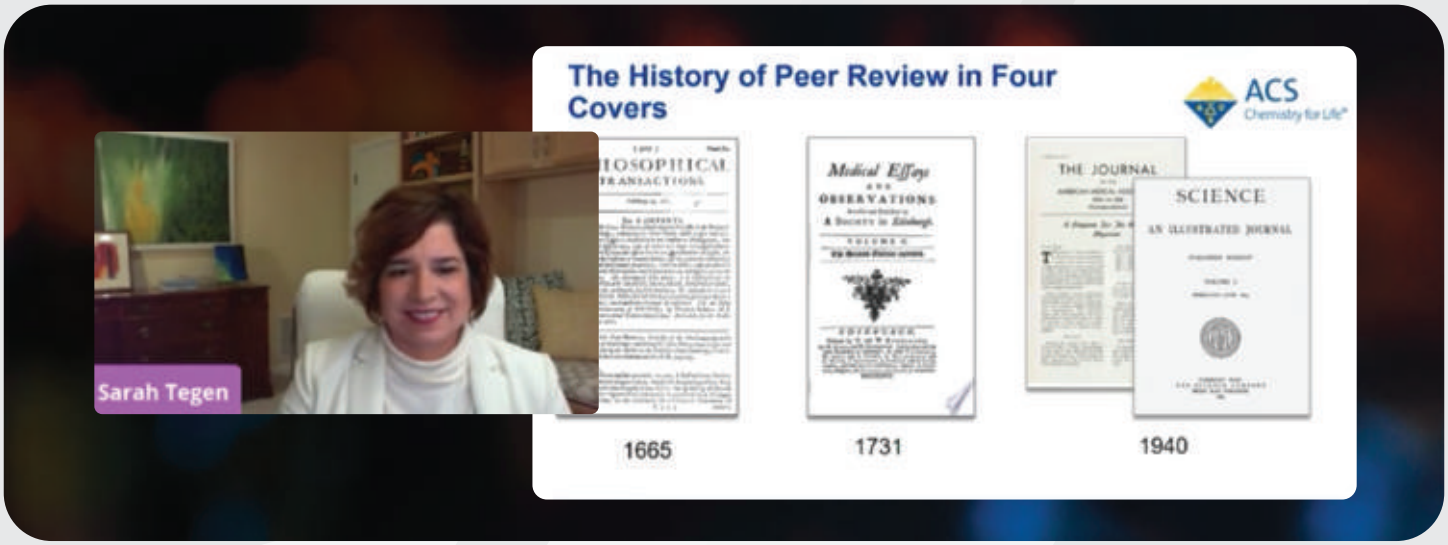
Institutions:

Membership provides access to experienced members who are willing to help strengthen and improve funding applications and review their research compliance. NCURA gives member access to resources (including international funding opportunities), continuing education, and workshops to help with proposals. In addition, they foster collaboration through a global fellowship program.

Ideally, the future will see the emergence of healthy co-funding mechanisms through joint research centres that are supported by different countries, private foundations, or consortia. NCURA aims to encourage research mobility and diversity in the research community to provide open data, open science, and open research for everybody to work together and tackle global challenges, including the private sector. To accomplish this, a healthy system of international research managers is required to support research infrastructure.

SESSION 2:

WHAT DOES THE FUTURE OF SCHOLARLY PEER REVIEW LOOK LIKE?



Dr Sarah Tegen, Senior Vice President at ACS Publications, provided an overview of the peer review process. Authors are required to publish to advance their careers. However, authors publish because it is a way to register their discovery, which is important for intellectual property considerations. Authors want their work to be certified and know that the information they published is of a particular quality and standard. They want their work to be disseminated, attract recognition, attract collaborators, earn rewards, and build them a reputation. Publishing also acts as an archive, leaving a permanent record of the research conducted.

Peer review is crucial for the fidelity of data and is valued as trustworthy. Reviewers volunteer their valuable time because they feel it is part of being a member of the scientific community. However, many reviewers are overworked and there is a disparity between the types of people editors ask to review papers and those that are available to review.

TAKEAWAYS:

Researchers:

Publishing models are streamlining the article submission process and utilizing tools that allow an author to transfer a manuscript to another journal upon rejection, without having to repeat the submission process. AI tools are being explored to provide a better match between articles and reviewers to speed up the review process. ACS now offers free online reviewer training, increasing the size of the reviewer pool. AI tools to streamline the publishing process are being investigated to allow editors and reviewers to focus on high value human assessments of the research. These tools, and a double-blind review process, can also help reduce possible bias.

Publishers:

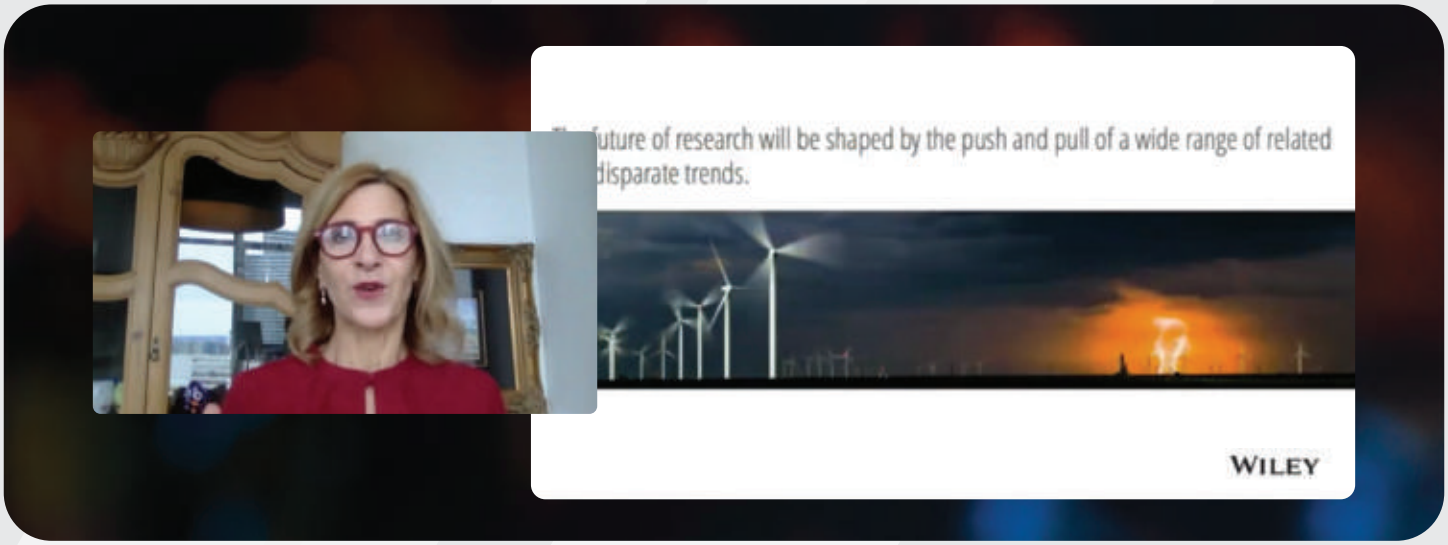
There is a need to simplify the publishing process for researchers as well as train reviewers to lighten the load on current reviewers.

In the future, peer review is likely to be more of a collaborative effort with editors and reviewers coming to a consensus of what is being identified in the paper. There is also a drive to include researchers worldwide.

SESSION 3:

FUTURE OF RESEARCH SUSTAINABILITY

What changes should we expect in research collaborations and research ecosystem?



Judy Verses, Executive Vice President of Research at Wiley, discussed the importance of creating a future with a collaborative and inclusive research community. The research ecosystem continues to change rapidly, the use of technology is accelerating discovery, shifting demographics amongst researchers and the rate of globalization.

TAKEAWAYS:

- **Researchers:**

  Researchers must push boundaries and resist the pressure to conform. They need to work with purpose and embrace new ideas about their research focus including who performs the research, how it gets performed, and how it gets communicated.

- **Institutions:**

  Need to create a diverse and inclusive culture. They need to facilitate interdisciplinary, multi-disciplinary, and convergence research as major research challenges often require expertise from many different disciplines.

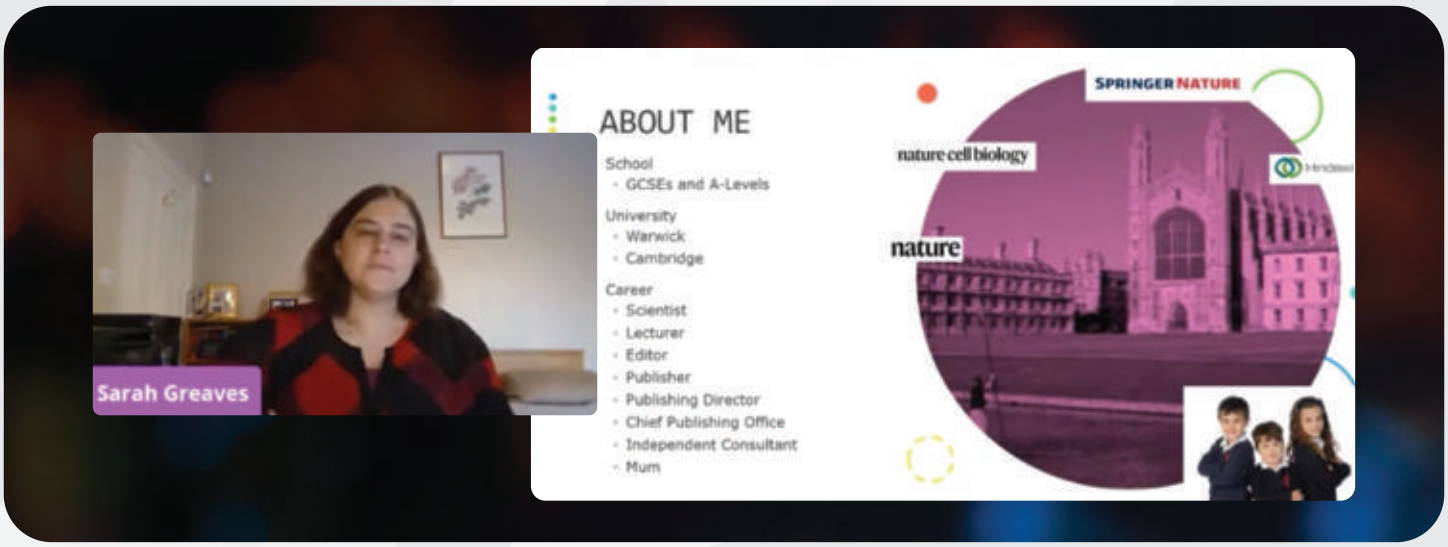
- **Publishers:**

  Publishers review the knowledge and distribute it to audiences so it can have impact. There is a need for improved statistical data review, more effective ways to display data as well as facilitate data mandates. A system that can accommodate a multi-disciplinary review process is required. Publishers also need to recruit

more diverse editors as well as editorial reviewers. There should be increased investment in platforms that foster collaboration among researchers, especially sustainable models of the open research system.

In conclusion, everyone in the research community has a responsibility to build a more diverse, inclusive, and equitable research ecosystem. This will enable us to work with the best available evidence that everyone in the world can use to make decisions.

SESSION 4:
SIMPLE TIPS ON HOW YOU CAN BECOME THE BEST SCIENCE COMMUNICATOR!



Sarah Greaves, former Publisher at Nature and Hindawi, advised on the art of publishing science. An overview of the publishing process was given, from author submission, editorial decisions, peer review, feedback, to acceptance.

TAKEAWAYS:

Researchers:

It is important to check whether your research fits the scope of the journal and whether it will reach the required audience. Ensure your article is well written, paying special attention to language. Once your article is published, promote and share your work widely. Provide summaries and links it to all stages of your research journey. Share your research on social media, ResearchGate, and at conferences. In addition, share your passion for science by mentoring, training, and encouraging others.

To become a reviewer, update your details on a reviewer platform such as Publons, contact a journal, and request to review and start volunteering.

One can appeal a rejection with a very well-articulated and structured rebuttal letter, ensuring the editors or reviewers comments are addressed, with reasons why you believe your paper should be published in the

journal. When addressing reviewer's comments, stick to the facts, never suggest you know who the reviewer is. If you completely disagree with the reviewer, you may ask for the review to be removed and request for another reviewer to review your paper.

- **Institutions:**

  Institutions can support academics by offering training for the key takeaways mentioned for researchers above.

- **Publishers:**

  Researchers are often unaware of the intricacies of the publishing process and the importance of selecting the journal that will best reach their target scientific community.

The editor ultimately decides whether to publish an article in a journal. Many papers get rejected, but most of these go on to be published within 9 to 12 months of their first submission, emphasizing the importance of selecting the correct journal up front to save you time.

SESSION 5:
OPEN SCIENCE AND RESEARCH CULTURE
Changes in approach and potential outcomes

Emma Wilson, Director of Publishing of the Royal Society of Chemistry, spoke about the future landscape of the research ecosystem, the changes in approach and potential outcomes.

Science lies at heart of how we navigate the challenges that face us and requires an excellent research environment to support it. The open science research culture is about transparency, accessibility, inclusiveness, and diversity. This is important as a scientific endeavor needs access to the best talent.

Therefore, research culture incorporates behaviors, values, expectations, attitudes, and norms of research communities. It directly influences researchers' career paths and determines the way that research is conducted

and communicated. Diverse teams produce better science, solves problems faster, and results in less wasted resources on duplicated work.

Open science is evolving over the entire research cycle. One precious resource is research data, which needs to comply to FAIR principles:

- Findable
- Accessible
- Interoperable
- Reusable

The Royal Society of Chemistry connects scientists and society as a whole, to spark new ideas and partnerships. This includes the importance of gender equality and diversity, championing the need for industry-wide initiatives to improve standards in this area. They are a mission driven organization that facilitates the scientific community to advance excellence in chemical sciences.

TAKEAWAYS:

- **Researchers:**

  Authors can choose open access or a subscription journal when publishing their work. The benefit of open access for authors is that the work gets more exposure, practitioners can apply findings rapidly, and the research is picked up quicker by industry. To increase your exposure, share your work on social media networks, work with the press office at your university, and promote your work to your network.

- **Institutions:**

  Communicate the tools available to authors to promote their work as well as the recognitions and rewards available to celebrate advances made by scientists. Address gender and diversity inequalities in the research field.

- **Publishers:**

  There is a lot of work to be done around inclusion and diversity. For example, it's been found that papers published by women are cited slightly less than those published by men. It was discovered that there were small gender biases at each step of the publishing process that put women at a significant disadvantage. It is believed that these biases are unconscious; however, a joint commitment for action on inclusion and diversity is required in publishing. In addition, peer review comments and editorial decision letters and any correspondence authors have as well will be published. Referee reports are published but the referee's identity remains anonymous.

In conclusion, learned societies are serving their respective research communities through publishing programs, which reflect the changing demands of researchers, in terms of access and communication.

CONCLUSION

The way science is being analyzed and communicated is advancing at a rapid pace, accelerated by the COVID-19 pandemic. There is an overall drive for openness, equity, and inclusion as well the need to streamline processes to get science communicated more efficiently so that it can be used to solve global challenges. AI is being used to streamline processes throughout the entire research cycle.

Overall, **See the Future 2020** was a great success, at every level – audience participation, involvement of some of the most influential and senior professionals in their respective sectors, and the feedback received after the conference. We are glad to note that See the Future has already generated considerable impact among the research community and are gearing up for the next conference already. See you all there!

ABOUT ENAGO

Since 2005, Enago has been a global leader in language services ranging from editing to publication support. It has also built robust AI products for researchers, publishers, societies, universities, and government research bodies. Enago has a diverse team of physicians, PhDs, MDs, and journal peer reviewers with an average experience of 19.4 years and competence in 1,600+ subjects in STEAM. These experts have an in-depth understanding of publication standards and work with authors and clients to develop comprehensive publications that comply with good publication practices and industry guidelines. Our "**Author First, Quality First**" approach has always led us to deliver high-quality services and a superior user experience."

ENAGO- WORLD'S LEADING AUTHOR SERVICE PROVIDER

- Founded in 2005
- Worked with the global research community in more than 125 countries
- Local operations in 15 countries
- Market leaders in Japan, China, Korea, LATAM

2 million+ authors assisted in 125 countries

1400+ subject areas covered

19.4+ years experience

bsi. ISO 9001 Quality Management — ISO 9001:2015 Certified

bsi. ISO/IEC 27001 Information Security Management — ISO/IEC 27001:2013 Certified

ISO 17100 Requirements For Translation Services — ISO 17100:2015 Certified